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To: Fremont Board of Selectmen

From: Michael Morrison, Entomologist

Subject: Mosquito Control Update

We began our mosquito survey of potential mosquito sites this spring. We are focusing on identifying mosquito breeding habitats of known vector species of Eastern Equine Encephalitis (EEE) and West Nile Virus (WNV). This has been an unusual mosquito season to date. Through April, we experienced a severe drought that resulted in minimal habitat for mosquito breeding. We then experienced a record breaking amount of rainfall from May through mid June. It was the wettest May ever and the second wettest June. Record breaking rainfall usually equates to record mosquito breeding but this was not the case. Instead, the heavy rains washed away mosquito breeding and resulted in very little, if any, mosquito breeding. Also, the rains came at a time when the "spring" mosquitoes were ending and prior to the "summer" mosquitoes starting. During July we experienced thundershowers. As a rule, the resulting rainwater pools evaporated before mosquito breeding could be completed. August has been very dry with low humidity resulting in minimal mosquito breeding habitat. Our future concern now is frequent thundershowers or a large rain storm that result in pooled water for more than seven days.

To date, we have identified twenty- three wetland areas that support mosquito breeding. Larvaciding has been completed, as necessary. We will continue to identify breeding sites of the primary vector of EEE, *Culiseta melanura*. This mosquito is found in permanent swamps and is difficult to collect. Fremont has a lot of preferred swamp habitat for *melanura*. The dry conditions at present have resulted in minimal mosquito breeding of EEE and WNV mosquitoes. We have responded to requests to have properties checked for mosquito breeding and will continue to do so.

Mosquito light traps are being utilized on a weekly basis to collect adult (flying) mosquitoes. These traps are baited with dry ice and attract many different mosquito species, including those associated with EEE and WNV. Trapped mosquitoes are microscopically identified to species and brought to the state laboratory in Concord for testing. Recently, light traps collected EEE positive mosquitoes in Danville, Manchester and Hampstead. The mosquito species found with EEE in Danville and Hampstead were bird feeding species. This indicates that EEE is being amplified in local bird populations. The Manchester mosquito pool was identified as a mammal feeding mosquito capable of transmission to humans and horses. To date, none of the Fremont mosquitoes submitted to Concord have tested positive for EEE or WNV. Light trapping is very important in determining the current threat from disease and the necessary response. Light trapping will continue until the end of September.

In summary, larval mosquito populations are at low levels at present. Currently, dry conditions and infrequent rainfall have resulted in minimal stagnant water habitats for mosquito breeding. The presence of EEE positive mosquitoes in nearby communities remains a concern.

Michael Morrison, Entomologist
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